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TITLE : MANUFACTURE OF SPHERICAL, FROZEN FINE PARTICLES

ABSTRACT : PURPOSE: To obtain spherical, frozen fine particles having even diameters containing medicine by keeping the temperature of only the lower layer of a volatile, non-hydrophilic solvent having specific gravity less than 1.0 at the freezing point of aqueous medical liquid and forcing aqueous dye drop by drop into said solvent from a nozzle with its tip dipped therein so that the aqueous dye is frozen in said lower layer.

CONSTITUTION: A volatile, non-hydrophilic solvent having specific gravity less than 1.0 (n-hexane is preferable in particular) is put in a cylindrical container, whereby the upper layer thereof is kept at a non-freezing point of aqueous dye (preferably about 0-10°C), while the lower layer at the freezing point (desirably about -10 to -100°C) to provide temperature gradient between both layers, following which the end of a nozzle leading to a storage tank of aqueous medical liquid is dipped, in such a manner that it is not exposed to the air, into the upper layer of said solvent so that the aqueous medical liquid is forced drop by drop into the solvent from the end of nozzle, in which, by vibrating the nozzle itself or stirring the cooling solvent, minute droplets of aqueous medical liquid are produced, whereby said droplets are lowered to the lower layer so as to be frozen for formation of desired particles.

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